

Amendments to the Claims:

1. (Currently amended) A process of producing the production of a protein product of interest in an F1 seed, ~~obtained by a hybridization of a first and a second transgenic parental plant, said hybridization generating a genetic endowment in said F1 seed for said production by combining in said F1 seed first and second partial genetic endowments of said first and second transgenic parental plants,~~

~~followed by isolating said product of interest from said F1 seed or a seedling thereof.~~  
said process comprising:

(a) hybridizing a first and a second transgenic parental plant, whereby an F1 seed is produced, wherein said first transgenic parental plant has integrated in its genome a precursor of a replicating DNA as a first partial genetic endowment, said replicating DNA encoding said protein of interest and comprising a geminiviral origin of replication and a nucleic acid sequence encoding a geminiviral replicase, said second transgenic parental plant encodes, as a second partial genetic endowment, a site-specific recombinase, integrase or flippase for generating said replicating DNA by rearranging the precursor of said replicating DNA by site-specific recombination, and said hybridizing generates in said F1 seed said replicating DNA by combining in said F1 seed said first and said second partial genetic endowments of said first and said second transgenic parental plant; and

(b) isolating from said F1 seed or a seedling thereof,

(i) said protein of interest, or

(ii) if said protein of interest is an enzyme, a chemical compound the synthesis of which said enzyme is involved in.

2. (Currently amended) A process of producing the production of a protein product of interest in an F1 seed, ~~obtained by a hybridization of a first and a second transgenic parental plant, said hybridization generating a genetic endowment in said F1 seed for said production by combining in said F1 seed first and second partial genetic endowments of said first and second~~

~~transgenic parental plants, whereby said product of interest is not expressed in said first or said second parental plant,~~

~~followed by isolating said product of interest from said F1 seed or a seedling thereof.~~  
said process comprising:

(a) hybridizing a first and a second transgenic parental plant, whereby an F1 seed is produced, wherein said first transgenic parental plant has integrated in its genome a precursor of a replicating DNA as a first partial genetic endowment, said replicating DNA encoding said protein of interest and comprising a geminiviral origin of replication and a nucleic acid sequence encoding a geminiviral replicase, said second transgenic parental plant encodes, as a second partial genetic endowment, a site-specific recombinase, integrase or flippase for generating said replicating DNA by rearranging the precursor of said replicating DNA by site-specific recombination, and said hybridizing generates in said F1 seed said replicating DNA by combining in said F1 seed said first and said second partial genetic endowments of said first and said second transgenic parental plant, whereby said product of interest is not expressed in said first or said second parental plant; and

(b) isolating from said F1 seed or a seedling thereof,

(i) said protein of interest, or

(ii) if said protein of interest is an enzyme, a chemical compound the synthesis of which said enzyme is involved in.

Claims 3-11. (Cancelled)

12. (Currently amended) The process according to claim 1, ~~40~~, wherein said replicating DNA is generated by combining in said F1 seed a site-specific recombinase from a first parental plant and a precursor of said replicating DNA from a second parental plant.

13. (Currently amended) The process according to claim 1, ~~5~~, wherein said replicating DNA is an autonomous plasmid.

14. (Withdrawn) The process according to claim 5, wherein said replicating RNA is an RNA viral replicon that is generated or rendered replicating by said hybridization.

15. (Withdrawn) The process according to claim 5, wherein said replicating RNA is generated from a component of said first partial genetic endowment and a component of said second partial genetic endowment by RNA specific recombination.

16. (Withdrawn) The process according to claim 15, wherein said replicating RNA is generated by the transcription of DNA of said first partial genetic endowment, whereby said transcription is caused by a component or expression product of said second partial genetic endowment.

17. (Withdrawn) The process according to claim 16, wherein said replicating RNA is encoded by the female parental plant involved in said hybridization.

18. (Currently amended) The process according to claim 1, ~~5~~, wherein transcription of RNA or proteins necessary for formation of said replicating DNA or RNA is controlled by a constitutive promoter, seed-specific promoter, or chemically regulated promoter.

19. (Currently amended) The process according to claim 1, ~~5~~, wherein said replicating DNA or replicating RNA is of plant viral origin.

20. (Cancelled)

21. (Withdrawn) The process according to claim 5, wherein said replicating RNA is based on a plus-sense single-stranded RNA virus.

22. (Withdrawn) The process according to claim 21, wherein said replicating RNA is based on a tobamovirus.

23. (Withdrawn) The process according to claim 22, wherein said tobamovirus is a Tobacco Mosaic Virus.

24. (Withdrawn - currently amended) The process according to claim 1, ~~5~~, wherein replication of said replicating DNA ~~or RNA~~ renders the plant grown from said F1 seed incapable of sexual reproduction.

25. (Withdrawn) The process according to claim 1, wherein sexual reproduction of a plant grown from said F1 seed is impaired, preferably abolished, more preferably said F1 seed is sterile.

26. (Withdrawn) A process of the production of a product of interest in an F1 seed obtained by a hybridization of a first and a second transgenic parental plant, said hybridization generating a genetic endowment in said F1 seed for said production by combining in said F1 seed first and second partial genetic endowments of said first and second transgenic parental plants, wherein said F1 seed is incapable of sexual reproduction,

followed by isolating said product of interest from said F1 seed or a seedling thereof.

27. (Withdrawn) The process according to claim 24, wherein the plant grown from said F1 seed is incapable of sexual reproduction due to blocking plant development before reaching the reproductive growing stage.

28. (Withdrawn) The process according to claim 27, wherein said blocking of plant development is achieved by tissue-specific expression of a toxic substance or protein interfering with normal plant development.

29. (Withdrawn) The process according to claim 28, wherein said protein is selected from the group consisting of barnase, Shiga protein, plant transcription factors, or enzymes controlling hormonal status of the plant.

30. (Previously presented) The process according to claim 1, wherein said product of interest accumulates in the developing embryo, in the endosperm, in cotyledons or in germinating seeds.

31. (Previously presented) The process according to claim 1, wherein said plants are monocots or dicots.

32. (Previously presented) The process according to claim 1, wherein the female parental plant of said hybridization is male-sterile.

33. (Currently amended) The process according to claim 1, wherein said protein ~~product~~ of interest is encoded in the partial genetic endowment provided by the female parental plant of said hybridization, ~~said product of interest preferably being a protein of interest.~~

34. (Previously presented) The process according to claim 1, wherein production of said product of interest in said seed is triggered by said generation of said genetic endowment.

35. (Withdrawn) A product produced or producible according to the process of claim 1.

36. (Currently amended) Seeds ~~produced or~~ producible according to the process of claim 1.

37. (Withdrawn) The seeds according to claim 36, wherein sexual reproduction of a plant grown from said seed is impaired, preferably said plant is sexually sterile.